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Technical Support
Real-Time Innovations, Inc.
155A Moffett Park Drive
Sunnyvale, CA 94089
Phone: 408-734-4200
Fax: 408-734-5009
E-mail: support@rti.com
Web Site: http://www.rti.com
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Welcome to WaveScope

Welcome to WaveScope®—the real-time network data monitoring tool from Real-Time Innovations, Inc. WaveScope provides a view into the NDDS® publish-subscribe and client-server transport services. With WaveScope, you can extract NDDS specific and user-generated information to assist in debugging and understanding your distributed system. WaveScope is designed to run seamlessly with NDDS applications and leverages RTI’s Stethoscope® product. WaveScope consists of a library that is linked to your applications, a set of threads that run with your application, and the host GUI of Stethoscope.

---

Reading Guide

- Read Chapter 1, which discusses System Requirements (Section 1.1) and Compatibility with Other RTI Products (Section 1.2).
- Use the instructions in Chapter 2 to download and install WaveScope.
- Once WaveScope is installed, experiment with it by following along with the exercises in the WaveScope Tutorial. The WaveScope Tutorial includes exercises to give you hands-on experience debugging and analyzing your NDDS applications. Use the left navigation bar in WaveScope.html to access the WaveScope Tutorial.
- Refer to the WaveScope User’s Manual for details on developing WaveScope applications.
Available Documentation

*WaveScope* documentation includes the following:

- This *Getting Started Guide* ([GettingStarted.pdf](#)), located in the *pdf/ directory* where you installed *WaveScope*.
- The *WaveScope* API documentation and tutorial ([WaveScope.html](#)), located in the main directory where you installed *WaveScope*.

Conventions

**Typographical Conventions**

This guide uses fonts to clarify text by distinguishing between what you type, what you should see as display output, variables, and literal strings. The typographical conventions are listed in Table 1.

<table>
<thead>
<tr>
<th>Usage</th>
<th>Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>pathnames, files</td>
<td><code>/local/rti/waveworks/wavescope_Hello_publisher.c</code></td>
</tr>
<tr>
<td>structure fields</td>
<td><code>maxSizeSerialize</code></td>
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<td>environment variables</td>
<td><code>NDDSHOME</code></td>
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<tr>
<td>function names</td>
<td><code>NddsPublisherCreate()</code></td>
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<tr>
<td>constants, keywords</td>
<td><code>NDDS_DEFAULT_DOMAIN</code></td>
</tr>
<tr>
<td>keyboard input</td>
<td><code>nddsgen -example</code></td>
</tr>
<tr>
<td>named keys on keyboard</td>
<td><code>&lt;RETURN&gt;, &lt;CTRL&gt;</code></td>
</tr>
<tr>
<td>display output, source code</td>
<td><code>DBase: started...</code></td>
</tr>
</tbody>
</table>
Pathnames

WaveScope documentation often refers to directories and files. For UNIX-like operating systems, WaveScope utilities and this guide use forward slashes as path separators, such as /local/rti/waveworks/wavescope. Otherwise, we use the backward slash (\) when describing files on the Microsoft Windows® operating system.

Environment Variables

This guide refers to pathnames that have been customized during installation. Throughout this guide, WAVESCOPEHOME refers to the installation directory of WaveScope.

Names of Supported Platforms

WaveScope runs on several different target platforms. To support the vast array of platforms, WaveScope separates the executable, library, and object files for each platform into individual directories.

Each platform name has four parts: hardware architecture (such as SPARC® or Motorola® 68000), operating system (such as Solaris™ or VxWorks®), operating system version and compiler. For example, sparcSol2.8gcc2.95 is the directory that contains files specific to Solaris version 2.8 for the SPARC processor, compiled with gcc version 2.95.

For information on supported platforms, see Section 1.1.3.

Coding Conventions

The following coding convention will help you distinguish specific concepts:

- All WaveScope API calls begin with WaveScope, such as WaveScopeRegister_short().
- All type definitions, structures, and enumerated types begin with WAVEScope, such as WAVEScopeProperties.
- All C++ classes that are strictly interfaces have the prefix WAVEScope and the suffix Class, such as WAVEScopeClass. An interface is a class that contains only pure virtual methods. This is a convenient mechanism to describe the user visible methods and hide implementation details.
- All C++ classes that are derivable and provide implementation have the prefix WAVEScope and the suffix Derivable, such as WAVEScopeDerivable. These classes can be used by themselves, or you can derive from them to extend their functionality.
WaveScope documentation contains examples. For clarity, parameters that are not relevant will be ignored, i.e. `WAVEScopeDerivable()`. In some cases, ellipses will be used to show just a few parameters, for example: `WAVEScopeDerivable(a, b, ...)`. 

**Note:** Ellipses do not represent the C/C++ variable argument syntax.
Chapter 1

Release Notes for WaveScope 1.0e

This chapter provides release-specific information for the latest version of WaveScope, release 1.0e:

- System Requirements (Section 1.1)
- Compatibility with Other RTI Products (Section 1.2)
- What’s New or Changed in WaveScope 1.0e (Section 1.3)

1.1 System Requirements

1.1.1 Disk and Memory Usage

Disk usage for a typical installation that supports one host architecture and one target architecture is approximately 38 MB. Installation for more than one target or host architecture will require more disk space. Typically, each additional target requires 3 MB.

We recommend that you have at least 64 MB RAM installed on your host development system. The memory usage on VxWorks®, the real-time operating system, depends on the complexity of your distributed application and hardware architecture. A typical WaveScope application will need as little as 40 KB for code and static data on VxWorks.
1.1.2 Networking Support

*WaveScope* requires TCP/IP services. Specifically, *WaveScope* needs network socket support for datagrams. These services are part of the standard TCP/IP stack included with most operating systems.

1.1.3 Supported Operating Systems

*WaveScope* 1.0e can be used with NDDS applications running on any supported target system, except LynxOS®. For a list of supported platforms, see the *NDDS Getting Started Guide*.

1.2 Compatibility with Other RTI Products

*WaveScope* 1.0e is built on RTILIB 4.2c and therefore is compatible with RTI’s *NDDS 3.0m* and *StethoScope 7.0d*.

If you need to run *WaveScope* 1.0e with *Constellation™*, contact support@rti.com for the correct version of *Constellation*.

You will also need GLOBEtrrotter’s FLEXlm license manager, version 8.1 (see Chapter 3).

1.3 What’s New or Changed in *WaveScope* 1.0e

The changes in this release are limited to those required for compatibility with new versions of NDDS, *StethoScope*, and FLEXlm.
1.4 What Changed in WaveScope 1.0d

This section describes new features and changes in WaveScope 1.0d, compared to WaveScope 1.0b.

- **Switch to FLEXlm License Manager**  WaveScope was updated to use FLEXlm License Manager instead of the RTI License Manager.

- **Better Signals Hierarchy**  The pre-defined set of signals that is registered for each NDDS object was divided into different hierarchy levels and renamed for better presentation.

- **C API**  A C API was added, in addition to C++ API. nddsgen was also updated to generate C code for WaveScope.

- **WaveWorks Boxes Demo**  The WaveWorks Boxes Demo was updated to include WaveScope.
Chapter 2

Installation and Setup

This chapter provides instructions on how to install WaveScope on the following platforms:

- UNIX Systems (See Section 2.2.)
- Windows NT and Windows 2000 Systems (See Section 2.3.)

2.1 Overview

WaveScope is designed to have all its files under a single tree. For VxWorks users, this chapter assumes VxWorks is already installed and functional. All the directory locations in this chapter are meant as suggestions only; adjust them to suit your site. You do not need administrator privileges to install WaveScope.

The basic steps described in this chapter include:

1. Downloading a WaveScope distribution.
2. Unpacking WaveScope from the distribution.
3. Installing WaveScope.

To use WaveScope, you will also need NDDS and the FLEXlm License Manager. Download and installation instructions for NDDS are provided in the NDDS Getting Started
Guide. Download and installation instructions for the FLEXlm License Manager are provided in Chapter 3 of this guide.

Note: If you are using multiple RTI products (such as StethoScope, MemScope, and ProfileScope) along with WaveScope, then you should install each product in a separate folder under a common RTI directory; for example:

/home/local/rti/waveworks/wavescope.1.0e
/home/local/rti/waveworks/ndds.3.0m

2.2 Downloading and Installing on UNIX Systems


2.2.1 Downloading

To download WaveScope for UNIX from RTI’s home page http://www.rti.com:

1. If you do not already have a web shipping user name and password, send e-mail to info@rti.com to obtain this information.
2. Select downloads, located at the top of our home page.
   a. Select WaveScope, located at the left of the page.
   b. Enter the user name and password for web shipping.
   c. Select Build Your Own.
3. Select the version of WaveScope you want to download, such as WAVESCOPE-v1.0x, then click Submit. (x stands for the version letter of the current release, see Chapter 1).
   The next page allows you to select your host and target platforms and the download format (compressed or uncompressed).
4. Select all of the target architectures you plan on using with WaveScope. You can use the <Ctrl> key to select more than one item in a list box.
5. Choose the shipment type: indicate whether or not to compress the download file. The final size of the shipment depends on the number of hosts and targets you selected. If you do not select a format, uncompressed format is used.
6. Click **Submit**. We will build your request and give you the link to the file to download.

7. Click the link to download the file to your computer.

   The file will be named *rti.ID.tar* (with a *.gz* at the end, if you chose the compressed shipment type) where *ID* is a numeric identifier, such as 12345. Save the file to a temporary directory on your computer, such as */tmp*.

   If the download times-out for an unknown reason, contact RTI at support@rti.com.

### 2.2.2 Installing

**To install a distribution for a UNIX system:**

1. Create a directory for *WaveScope*. We will assume that the installation directory is */local*. If you want to install it elsewhere, replace the references to */local* with the directory of your choice.

   ```
   cd /local
   mkdir rti
   ```

2. Move the downloaded *.tar* file into your newly created directory. In these instructions, we will assume the name of the file you downloaded is *rti.12345.tar.gz*.

3. If you selected the compressed option, you must uncompress the downloaded file. Otherwise, continue to step 4.

   ```
   gunzip rti.12345.tar.gz
   ```

4. Extract the distribution by un-taring the uncompressed file. Type:

   ```
   tar xvf rti.12345.tar
   ```

5. Set the **WAVESCOPEHOME** environment variable.

   When you untar the distribution, all the files for *WaveScope* are located under one directory called *wavescope.1.0x*, where *x* is the current version letter of *WaveScope* 1.0. This directory is referred to as **WAVESCOPEHOME**.

   For each user’s "*.login*" file, type:

   ```
   setenv WAVESCOPEHOME /local/rti/wavescope.1.0x
   ```

   where the directory is the actual location of the *WaveScope* files loaded on your system.
6. Add WaveScope’s bin directory to your PATH environment variable.
   Assuming you installed WaveScope into the directory /local/rti/wavescope.1.0x,
   type:
   ```
   setenv PATH $(WAVESCOPEHOME)/scripts:${PATH}
   ```
   This allows you to develop on multiple architectures with only one addition to
   your path.

2.3 Downloading and Installing on Windows Systems

Before you can install WaveScope on your Windows NT or Windows 2000 system, you
must download the WaveScope distribution from RTI’s home page at http://

2.3.1 Downloading

To download WaveScope for Windows from RTI’s home page http://www.rti.com:

1. Send e-mail to info@rti.com to obtain a web shipping user name and password if
   you are not given one already.
2. Select downloads, located at the top of our home page.
   a. Select WaveScope, located at the left of the page.
   b. Enter the user name and password for web shipping.
   c. Select Prebuilt.
3. Click the version of WaveScope you want to download, such as WaveScope 1.0x
   for Windows.
   **Note:** x stands for the version letter of the current release (see Chapter 1).
   The next page confirms what you are about to download.
4. Click the "Click here to download the file" link.
5. Save the file, wavescope10x.EXE to a temporary location on your computer, for
   example, C:\Temp.
2.3.2 Installing

To install a distribution for a Windows system:

1. Exit from any other Windows programs you have running.
2. Run the downloaded file, such as wavescope10x.EXE.
3. On the Welcome Window, click Next>.
4. On the Choose Destination Location Window, select the directory where you want to install WaveScope.
   We recommend that you create a directory where you can keep all of RTI’s products. For example, specify C:\RTI\wavework\wavescope1.0x as the installation directory. This will become your WAVESCOPEHOME environment variable.
   Click Next>.
5. On the Backup Replaced Files Window, choose whether or not you want the installation program to backup any files that are being replaced. Your response to this question is only relevant if you are replacing an older version of WaveScope. If you select Yes and later uninstall this version of WaveScope, the previously installed version will automatically be restored.
   Click Next>.
6. The next windows allow you to select various Tornado targets. You can choose as many or as few (including none) of these targets.
   Click Next> after selecting any desired targets on these windows.
7. On the License Manager Host Window, enter the name of the host that will be running the FLEXlm License Manager.
8. The next window, Read Me, contains instructions on installing the FLEXlm License Manager. These instructions are also available in Chapter 3 of this guide.
   Click Next>.
9. On the Start Installation Window, click Next> to begin the installation process.
    You will be prompted to restart your computer before you can use WaveScope.
    (Remember, you must have NDDS and the FLEXlm License Manager installed, too.)
Chapter 3

License Installation

3.1 About the License Manager

WaveScope is a licensed product using FLEXlm® version 8.1 for licensing. You need to obtain a license file and run the FLEX License Manager’s server application (lmgrd) before you can run WaveScope.

Note: If you have a temporary license for the purpose of evaluating WaveScope, you do not need to run the license manager. Simply specify the path to your license file when prompted during Site Setup.

1. Obtain a license file from license@rti.com. You will need to provide your customer ID, as well as the hostname and hostid of the machine that is to run the license manager. See Section 3.2 for details.

2. Run the license manager as described in Section 3.3 (for UNIX systems) or Section 3.4 (for Windows systems).

FLEX License Manager (FLEXlm) is a network floating-license manager. Its purpose is to allow you to run a limited number of copies of an application on one or more computers within a network of computers.

FLEXlm runs as an independent license-server process on a workstation or PC known as the license-server host. The license-server host is usually also a file server, but can be any machine on the network. When an application starts, it requests a license from the server. The server “checks out” a copy of the license to the client application. When all
the available licenses are in use, the server denies new requests, preventing additional copies of the application from starting.

Licenses are returned by a licensed application when it exits. Each application keeps its license as long as it is active. Most applications will exit immediately if their license is stripped away forcefully, or if the license manager is terminated.

For more details on the license manager, refer to the FLEXlm End User’s Guide. An HTML version of this manual for FLEXlm version 8.1 is located in your WaveScope installation as <FLEXLM_HOME>/html/allTOC.htm.\(^1\)

\(<\text{FLEXLM\_HOME}\>\) refers to the directory under which FlexLm is installed.

---

**3.2 Licenses and the License File**

To obtain a WaveScope license, contact your distributor with your customer ID, the host name, and the host ID of the machine that will be running the license manager.

To find your hostname and host ID on a UNIX system:

1. Run the `hostname` command to get the host name.

   ```
   % hostname
   zeus
   ```

2. Run the `lmhostid` command to get the 48-bit hexadecimal FLEXlm hostid. You can locate the `lmhostid` command in `<FLEXLM_HOME>/host/HOST\_TYPE\^2/bi

   ```
   % lmhostid
   lmhostid - Copyright (C) 1989-2001 Globetrotter Software, Inc.
   The FLEXlm host ID of this machine is "000102f3f873"
   ```

   In this example, `zeus` is the host name and `000102f3f873` is the host ID.

---

1. For Windows systems, replace forward slashes (/) with backward slashes (\).
2. HOST\_TYPE refers to the Tornado host architecture (e.g. sparcSoI2.7cc5.0)
3.2 Licenses and the License File

To find your hostname and host ID on a Windows system:

1. Locate the tool called Get RTI Host ID in the Start Menu under Programs, RTI, WaveWorks, WaveScope 1.0x, flexlm.8.1.
2. Run Get RTI Host ID to obtain the host ID.

Note: Hostnames are case-sensitive.

3.2.1 License File Location

The license manager looks for license information in a license file, flex_license.dat. After receiving a license from your distributor, save the file in the following location:

rti/flex_license.dat

Note: The license file’s name and location must be exactly as specified here. Place the license keys in this flex_license.dat file.

Be sure to set the permissions on the file so that all users can read it. On UNIX systems, use the command:

% chmod a+r rti/flex_license.dat

You should keep a separate copy of your license file in a safe place and be careful not to overwrite it when you install updates.

Note: You can combine this license file with other license files for the same version of FLEXlm by concatenating the two files into a single file.

3.2.2 License Manager Application and Tools

Your WaveScope installation comes with the FLEXlm license manager daemon (lmgrd), an RTI vendor daemon (RTID), and the FLEXlm Tools (lmutil on UNIX systems, or lmutil and lmtools on Windows Systems) for license administration and monitoring.

On UNIX systems, the tools are in ${FLEXLM_HOME}/bin/HOST_TYPE. Access them through the command line.

On Windows systems, the tools are in %FLEXLM_HOME%/bin/i86Win32VC60. A shortcut for FLEXlm Tools is in the Start Menu, under Programs, RTI, WaveWorks, WaveScope 1.0x, flexlm.8.1.
3.3 Using FLEXlm on UNIX Systems

WaveScope can obtain its license from a FLEXlm license manager running on your local machine or from a remote license manager on the network.

**Note:** If you have a node-locked, uncounted license file, you may choose not to run a license manager. In this case you only need to make sure that the license file is correctly located as described in Section 3.2.1.

You can run the License Manager from a command prompt (see Section 3.3.1), or automatically at system startup with a boot script (see Section 3.3.2).

### 3.3.1 Starting the License Manager from a Command Prompt

To start the license manager from a command prompt, simply type:

```bash
% lmgrd -c licensefile [ -l logfile ]
```

where:

- **lmgrd** is the license manager daemon as described in Section 3.2.2
- **licensefile** is the full path name of the license file on your system (e.g., `rti/flex_license.dat`).
- **logfile** is optional and can be specified with the `-l` option. It is the file where all license server messages are logged. If this option is not specified then all messages are displayed on the console where `lmgrd` executes.

Super user (root) permissions are not required to run `lmgrd`. You should run the license manager as a normal user to avoid security risks associated with a server running under root permissions.

### 3.3.2 Starting the License Manager at System Startup

To start the license server automatically at system startup, add the command:

```bash
% lmgrd -c licensefile -l logfile
```

to the appropriate boot script. Refer to Section 3.1.1 “Starting the License Server at System Startup” in the FLEXlm End User’s Guide.
3.4 Using FLEXlm on Windows Systems

WaveScope can obtain its license from a FLEXlm license manager running on your local machine or from a remote license manager on the network.

Note: If you have a node-locked, uncounted license file, you may choose not to run a license manager. In this case you only need to make sure that the license file is correctly located as described in Section 3.2.1.

You can run the License Manager as a Windows service (see Section 3.4.1), or as an application (see Section 3.4.2).

3.4.1 Running the License Manager as a Windows Service

The FLEXlm license manager does not automatically start as a service after installing WaveScope. You need a valid license file before you can start the license manager. Once you obtain the license file as described in Section 3.2, start the license manager service as follows:

1. Start FLEXlm Tools. To locate the tool, see Section 3.2.2. Figure 3.1 shows the main window on startup.

2. Under the Service/License file tab, select the radio button for Configuration using Services.

Figure 3.1 Configuring FLEXlm as a Windows Service
3. Select the **Configure Services** tab.

4. Enter a name, for example, **FLEXlm Service** in the **Service Name** box.

5. Enter the full path to **lmgrd.exe**. (Locate **lmgrd.exe** as described in Section 3.2.2).

6. Enter the full path to the license file as specified in Section 3.2.1. You may have to use the *.* filter to locate the file using the **Browse** button.

7. Enter the location of the log file in the **Path to debug log file** box.

8. Select the **Use Services** check box.
   
   This will activate the **Start Server at Power Up** check box. Selecting this will cause the service to be automatic, otherwise the service will be manual.

9. Click **Save Service** to save the service configuration.

10. Select the **Service/License file** tab to see the service you just added.

11. Open the **Services** utility in **Start, Settings, Control Panel** to verify that the service was installed. (On Windows 2000 systems, this is under the **Administrative Tools** icon.)

12. Start the license manager service.

   Either:

   - Choose the **Start/Stop/Reread** tab in the FLEXlm Tools window. Select the license manager service you created in Step 4. Then click **Start Server** to start the service.

   - Or, open the **Services** utility as in Step 11 and choose the start action for the service. If you did not install the service as automatic in Step 8, you will have to manually start the service every time you restart the license manager. Making the service automatic avoids this.

### 3.4.2 Running the License Manager as an Application

You can start the license manager from the Windows **Start** menu or from a command prompt.

#### 3.4.2.1 From the Start Menu

To start the license manager using the Windows **Start** menu:

1. Make sure that **rti\flex_license.dat** exists, where **flex_license.dat** is a file containing a valid license.
2. Select the FLEXlm License Manager shortcut under Start, Programs, RTI, WaveWorks, WaveScope 1.0x, flexlm.8.1 to start the license manager. (The exact location may vary.)

3. Minimize the window and leave the license manager running.

**Note**: If you move the license file from the location given above, you will need to edit the properties of the shortcut to point to the new location.

### 3.4.2.2 From a Command Prompt

You can also start the license manager by typing the following at a command prompt:

```bash
lmgrd -c licensefile [ -l logfile]
```

where:

- `lmgrd.exe` is located as described in Section 3.2.2.
- `licensefile` is the full path name of the license file on your system (for example, `rti\flex_license.dat`).
- `logfile` is optional and can be specified with the `-l` option. It is the file where all license manager messages are logged. If this option is not specified then all messages are displayed on the command prompt window where `lmgrd` executes.

**Note**: If you want to automatically start the license manager every time you log in, move or copy the shortcut into the Startup folder of the Start menu.

### 3.4.3 Remote License Manager

If you have several machines on a network using WaveScope, you can run a central floating license manager, serving licenses over the network. Such a setup relieves individual users from the overhead of managing license managers. The process of setting up a remote license manager is same as that of setting up a license manager as described in Section 3.3 and Section 3.4. You will, however, have to use a license file that permits you to serve multiple licenses.

**Note**: If you want to run the license manager on a machine that is not running WaveScope, contact RTI to obtain license manager binaries for your platform.

### 3.4.4 Using a License Manager

If you are running a license manager, WaveScope needs to know its location in order to check out a license. This license manager could be your local computer or a central license server.
You can run WaveScope with a command line option to specify a license manager:

```
wavescope -c <licensefile or @server>
```

You can also set the `LM_LICENSE_FILE` or `RTID_LICENSE_FILE` environment variables to point to a license manager. Refer to the Chapter 3, The License File, in the FLEXlm End User’s Guide for more details on specifying a license manager.

Note for Windows users: If you had specified a license file or a license manager at the time of installation, then the WaveScope shortcut (in Start, Programs, <WaveScope Program Group>) will use it with the `-c` option. If a license cannot be checked out, the FLEXlm License Finder (Figure 3.2) dialog box will appear. The dialog box allows you to specify a license server or file. Select the option that allows you to specify a license server. On the next prompt asking for the license server, enter the hostname of the license manager and click through to finish.

![Figure 3.2 FLEXlm License Finder (for Windows systems)](image)

### 3.4.5 Troubleshooting

The most common reasons for a license manager to fail to start up are:

- A license manager using the same vendor daemon (`rtid.exe` on Windows systems or `RTID` on UNIX systems) is already running.
- A valid license file does not exist at the specified location.
The basic troubleshooting steps are:

1. View the log file or log console for the FLEXlm license manager to look for any error messages, such as an already running license manager or a wrong license file.
2. Stop and restart the license manager.
   
   **On UNIX systems:**
   
   \%
   \texttt{lmutil lmdown -c @licensehostname}
   
   (Beware that shutting down the license manager will take away licenses from all users who have currently checked out a license from this server).

   **On Windows systems:**
   
   a. Run FLEXlm Tools.
   b. Choose the **Start/Stop/Reread** tab.
   c. Select the appropriate license manager and choose **Shutdown**.
   
   **Note:** You could also do this by terminating the **rtid.exe** process through the Windows Task Manager.

   Now start a license manager as described earlier.

3. Check that both **lmgrd** and **rtid** exist at the same location specified in Section 3.2.2.

### 3.4.5.1 How WaveScope Checks Out a License

This section describes how WaveScope locates a license when it is started. The information in this section is intended to help you with troubleshooting in the event of a license checkout failure.

There are several ways by which WaveScope can locate a valid license and will start successfully if any one of them point to a valid license manager or node locked, uncounted license file.

1. If WaveScope is started with a **-c** command line option specifying a license file or server.
2. A license is checked out successfully if the **LM_LICENSE_FILE** or **RTID_LICENSE_FILE** environment variable points to a valid license manager or a valid node-locked, uncounted license file.
3. If a successful license checkout is performed, the location of the license (server or file) is saved in \$HOME/.flexlmrc on UNIX systems or in the registry under HKEY_LOCAL_MACHINE\SOFTWARE\FLEXlmLicenseManager\RTID_LICENSE_FILE on Windows systems. Subsequent attempts to checkout a license will first lookup the location specified here.

4. (Windows systems only) If none of the above steps are able to locate a valid license, the FLEXlm License Finder comes up as described in Section 3.4.4.

For more troubleshooting details refer to the troubleshooting section in the FLEXlm End User's Guide.

3.4.6 License Administration on UNIX Systems - lmutil

The lmutil command is a license administration tool. It allows you to stop a license server, reread licenses without stopping the license server, view server status and license activities, manage license log files and diagnose license file for errors along with a host of other features. Refer to Chapter 7, “License Administration Tools,” in the FLEXlm End User’s Guide for more details on using lmutil.

3.4.7 License Administration on Windows Systems - lmtools

FLEXlm Tool (LMTOOLS) is a license administration tool. It lets you set up and configure licensing, start and stop license managers, reread new license files without stopping the license manager, view server status and license activities, manage license log files and perform server diagnostics along with a host of other features.

You can start FLEXlm Tool either from the shortcut under the Windows Start menu, or by executing lmtools.exe from the command line. Refer to Section 3.2.2 for details on locating LMTOOLS. Refer to the section on “License Administration Tools--LMTOOLS for Windows,” in the FLEXlm End Users’s Guide for details on using LMTOOLS.
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